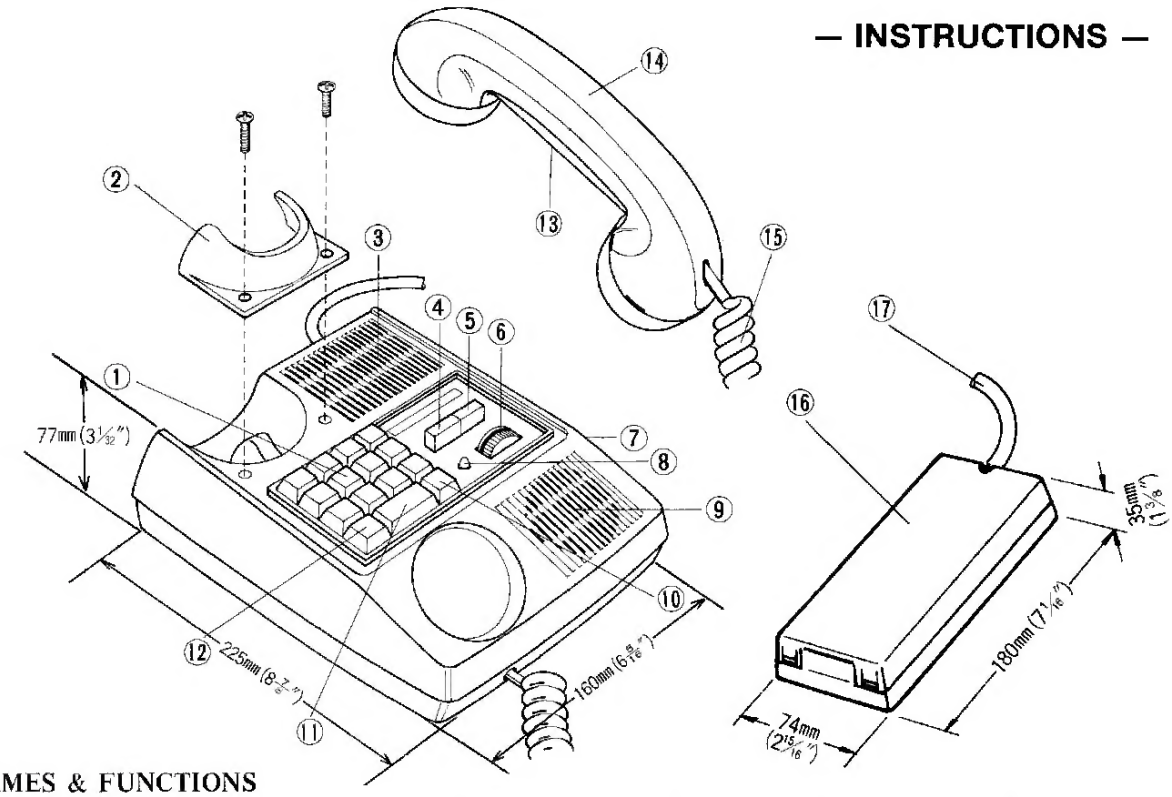
AIPHONE

SPEAKER PHONE INTERCOM

MULTI-CHANNEL SYSTEM

MODELS KAH-12 *(twelve-way)*
KAH-24 *(twenty-four way)*

— INSTRUCTIONS —



NAMES & FUNCTIONS

① Station selector buttons
② Receiver cradle for wall mounting
③ Loudspeaker
④ Line privacy button
⑤ Station privacy button
⑥ Volume control for loudspeaker
⑦ Volume control for privacy call tone
⑧ Call lamp
⑨ Loud-speaking microphone
⑩ Expander button (A) (only in KAH-24)
⑪ Call button
⑫ P button for paging announcement and increasing loud speaker output
⑬ Directory card
⑭ Handset
⑮ Coil cord
⑯ Terminal box
⑰ Terminal cord

SPECIFICATIONS:

Use straight conductor cable. Do not use twisted pairs.

* Power source:	DC 12 volt. Use PS-12S (or PS-12C in North America) AC adaptor.
* Current consumption:	250 mA maximum.
* Calling:	Push button station selection. A single stroke chime sounds when call button is depressed.
* Loud speaking output:	250 mW maximum during simultaneous conversation. 700 mW maximum when operating push-to-talk switch (P button)
* Paging:	Use paging adaptor PA-1 or PA-2 in conjunction with standard paging amplifier and speakers.
* Wiring:	4 common wires plus one individual wire per station. Example: 28 conductors for a 24 station system.

Downloaded from www.Manualslib.com manuals search engine

FEATURES

* Advanced integrated circuit provides superb fidelity and trouble free operation.
* Selective telephone or hands free function at the receiving station.
* Multi-channel system permits up to 12 separate conversations.
* A privacy switch is provided to prevent monitoring.
* A line privacy switch provides station lock out, preventing interruption by tone or voice.
* Separate privacy tone and volume controls.
* Conference call may include 4 stations.
* P button doubles volume at a receiving station to penetrate noise.
* Designed for desk or wall use.

OPTIONS

* Two call telephone type stations may be connected.
* Multi-channel paging either with or without talkback using accessories.

EQUIPMENT AVAILABLE FOR USE WITH YOUR KAH SPEAKER-PHONE

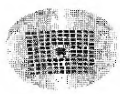
KAH-12: 12 call speaker phone master station.

KAH-24: 24 call speaker phone master station.

KAH-2: 2 call telephone station.

PA-1: Block paging adaptor. Connects all KAH phones to a paging system. May be used in multiple for zone/block paging.

PA-2: Block paging with talkback. Connects all KAH phones to a paging system with talkback from speakers. May be used in multiple for zone/paging with talkback.



SP-3: Paging speaker. Complete and ready to install including round flush mounting frame.

PS-12C: CSA & UL LISTED Power supply (available only in North America).

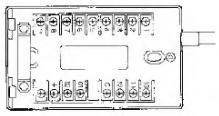
PS-12S: Power supply (not available in North America).

INSTALLATION

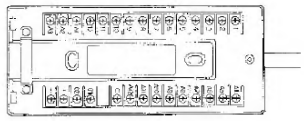
Do not attempt to install your intercom system until you have read and thoroughly understood the installation procedure. Aiphone's warranty is void if system is installed in a manner other than described in this manual.

ACTUAL KAH TERMINAL LOCATIONS

KAH–12

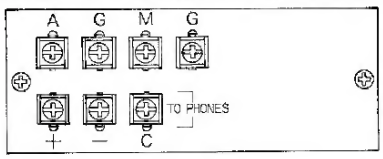


KAH–24



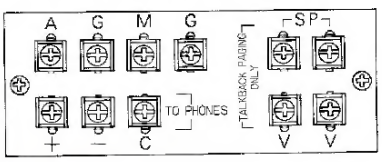
① – ⑫ : for connecting relative stations.
A1 – A12 : for connecting relative stations.
Ⓒ : for receiving a call.
⊕, ⊖ : for power supply.
02, 01 : to be used if wire distance exceeds 200 m (600') total or more than 13 stations are used in a system.

ACTUAL PA-1 TERMINAL LOCATIONS



Ⓐ, Ⓖ : for connecting AUX input of paging amplifier.
Ⓜ, Ⓖ : for connecting to background music source.
⊕, ⊖ : for power supply.
Ⓒ : for connecting to a selector terminal of KAH stations.

ACTUAL PA-2 TERMINAL LOCATIONS

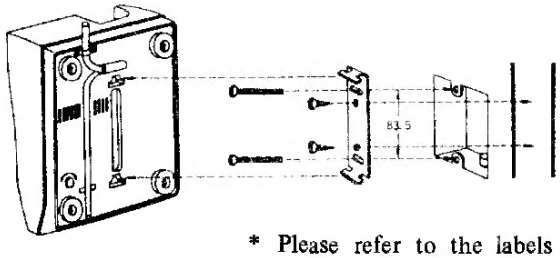


Ⓐ, Ⓖ : for connecting AUX input of paging amplifier.
Ⓜ, Ⓖ : for connecting to background music source.
SP, SP : for connecting to paging speakers.
⊕, ⊖ : for power supply.
Ⓒ : for connecting to a selector terminal of KAH stations.
Ⓥ, Ⓥ : for connecting to paging amplifier out-put.

Downloaded from www.Manualslib.com manuals search engine

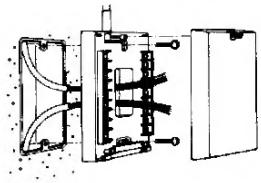
INSTALLATION FOR WALL MOUNTING

1) Attach the mounting bracket to wall or plaster ring.
2) Remove the rubber feet from base of station.
3) To attach the provided handset cradle, remove two screws, place the cradle and reinsert the two screws.

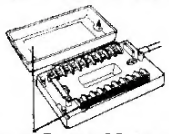


INSTALLATION OF TERMINAL BOX

1) Remove screws and cover as shown.
2) Attach bottom case to wall or 1-gang box.
3) Replace cover after wiring.



* Please refer to the labels on the sides of terminal box and back of the cover.



TERMINAL IDENTIFICATIONS

WIRING: Use straight conductor cable. Do not use twisted pairs.

Lay out your system in advance. Determine the exact location of each station. We recommend a full complement of wire be installed, even though you may not initially be installing the maximum number of stations available to your system. This way, should you decide to add a station later, you can avoid running additional cables to existing stations. Connect wires to terminals 01 & 02 if wire distance exceeds 200m (600') total or more than 13 stations are used in your KAH system.

Refer to the chart below and select the proper wire gauge to meet your requirements.

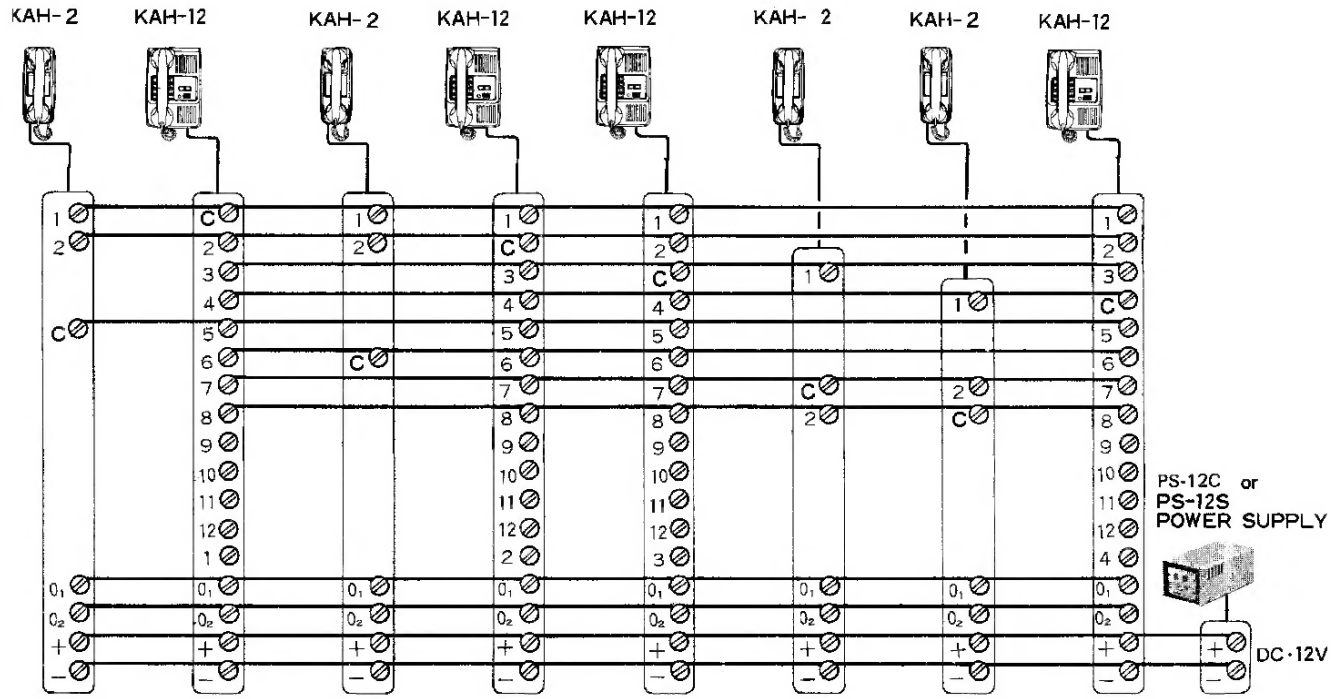
AWG WIRE SIZE	24 AWG	22 AWG	20 AWG	18 AWG
DISTANCE	330'	550'	830'	1300'
DIAMETER OF WIRE	0.5 mm	0.65 mm	0.8 mm	1.0 mm
DISTANCE	120 m	200 m	300 m	500 m

Referring to the diagram which illustrates your system, write your color code in the space privided. Begin your installation with station #1. Note the position of the C terminal at each station. Be sure you wire each station correctly.

After installing the second station we recommend that the power supply be connected to the + and – terminals on a phone and that a test be made for calling and talking between the stations. As each additional station is installed retest between each station. Unplug power supply while making wiring connections.

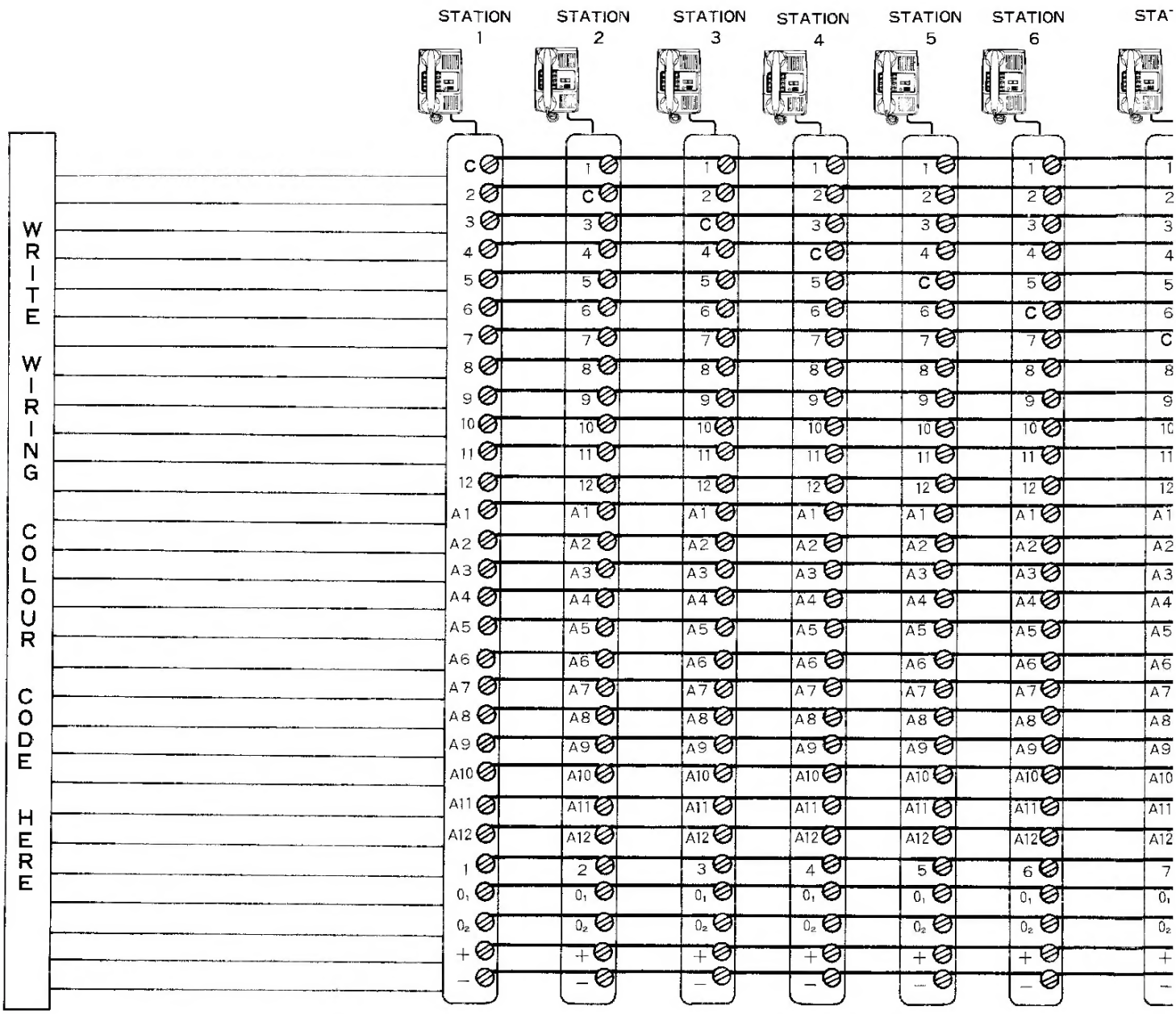
INTERMIXED KAH-12 SPEAKER PHONE AND KAH-2 TELEPHONE STATIONS

The telephone station KAH-2 can place a call to two other stations (or paging blocks) as selected upon installation, and can receive a call from any speaker phone master station. For full information please refer to instruction sheet packed with KAH-2.



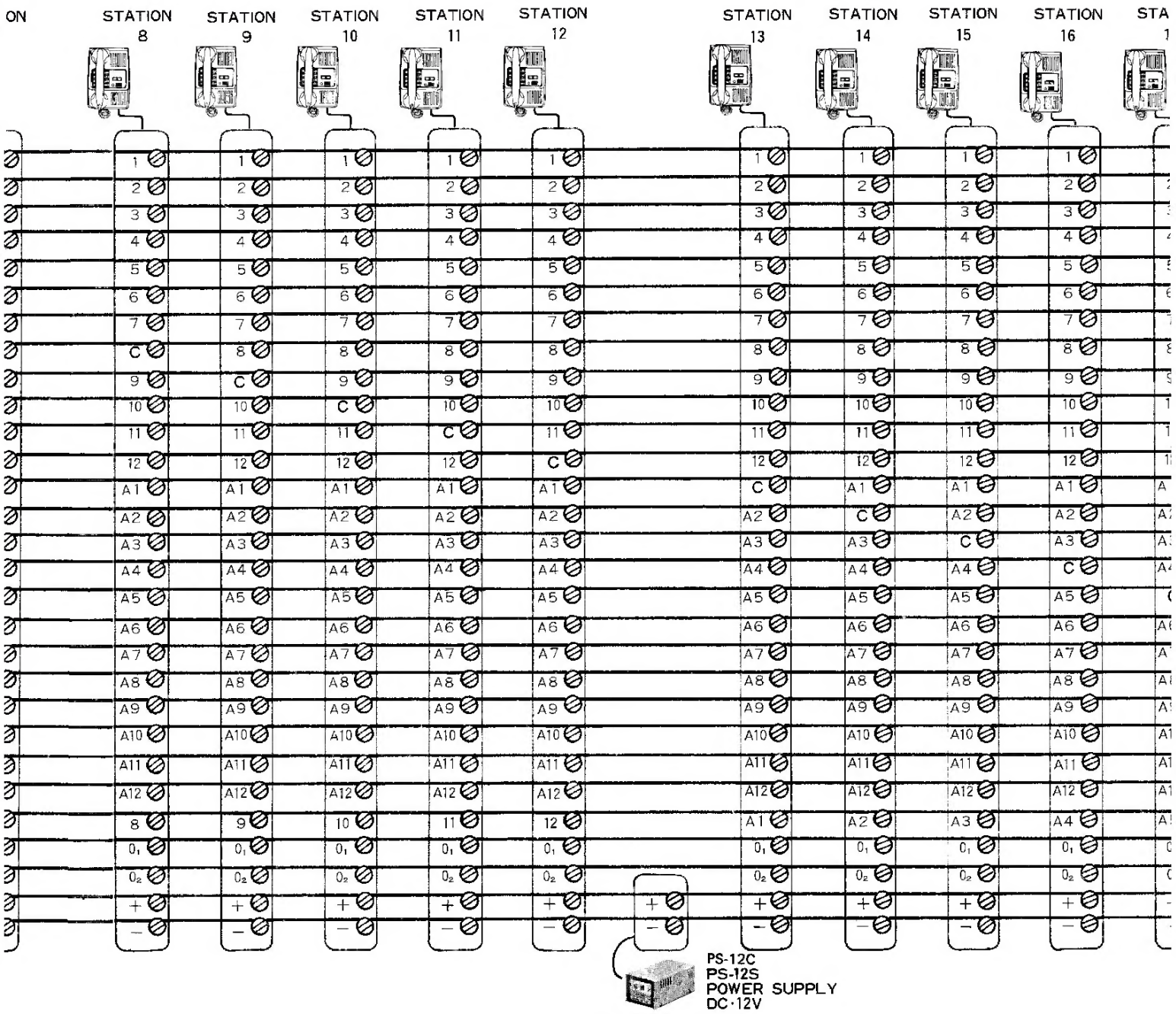
Downloaded from www.Manualslib.com manuals search engine

KAH-24

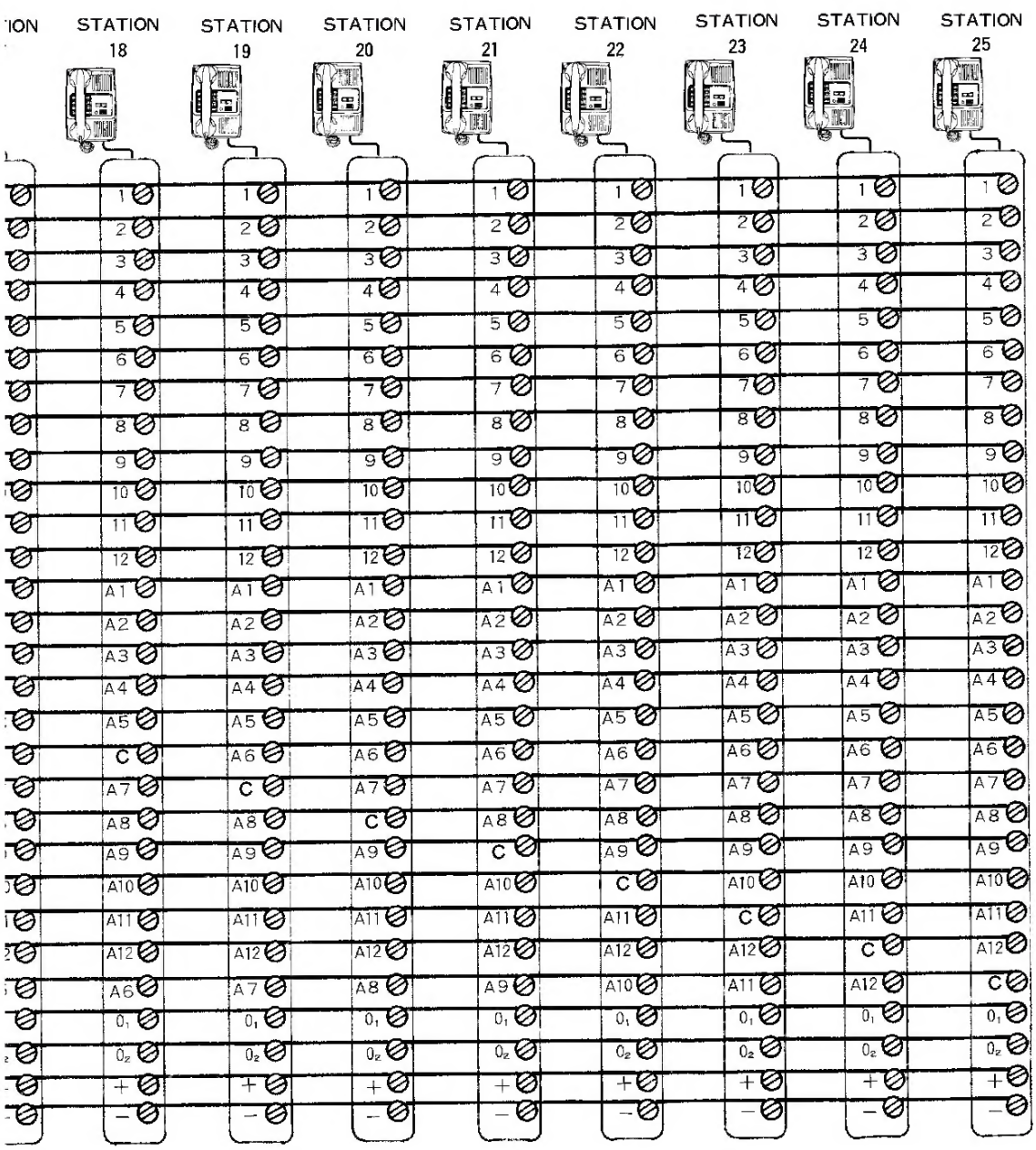


Downloaded from www.Manualslib.com manuals search engine

SPEAKER PHONE INTERCOM ALL MASTER SYSTEMS

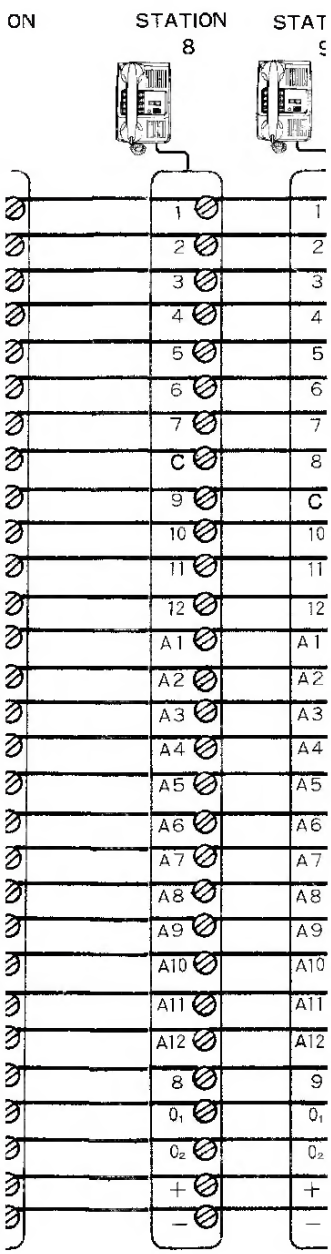


Downloaded from www.Manualslib.com manuals search engine



Downloaded from www.Manualslib.com manuals search engine

SPEAKER PH



CONNECTION OF PA-1 BLOCK PAGING ADAPTOR

1) Extend conductors from the phone network plus (+), minus (−) and an unused number terminal to plus (+), minus (−) and C on the PA-1.
2) Using shielded cable, connect the background music source to terminals M and G on the PA-1.
3) Using shielded cable, connect terminals A and G on the PA-1 to the AUX (or PROGRAM) input of the paging amplifier.
   Each PA-1 provides a separate block and channel for paging.

AMPLIFIER REQUIREMENTS

* Input:	AUX; more than 10K ohm, −10 dbm.
* Output:	Less than 100 watt RMS with either 25, 70 or 100 volt line.

BACKGROUND MUSIC REQUIREMENTS

* Use audio output:	RANGE; 100 mV – 1.2 V, 600 ohm – 10K ohm.

CONNECTION OF PA-2 BLOCK PAGING ADAPTOR WITH TALKBACK

1) Extend conductors from the phone network plus (+), minus (−) and an unused number terminal to plus (+), minus (−) and C on the PA-2.
2) Using shielded cable, connect the background music source to terminals M and G on the PA-2.
3) Using shielded cable, connect terminals A and G on the PA-2 to the AUX (or PROGRAM) input of the paging amplifier.
4) Connect the output of the amplifier 25, 70 or 100 volt line to terminals V, V on the PA-2.
5) Connect speakers to terminals SP on the PA-2.
   Each PA-2 provides a separate block and channel for paging with talkback.

AMPLIFIER REQUIREMENTS

* Input:	AUX; more than 10K ohm, −10 dbm.
* Output:	Less than 100 watt RMS with either 70 or 100 volt line. Less than 60 watt RMS with 25 volt line.

BACKGROUND MUSIC REQUIREMENTS

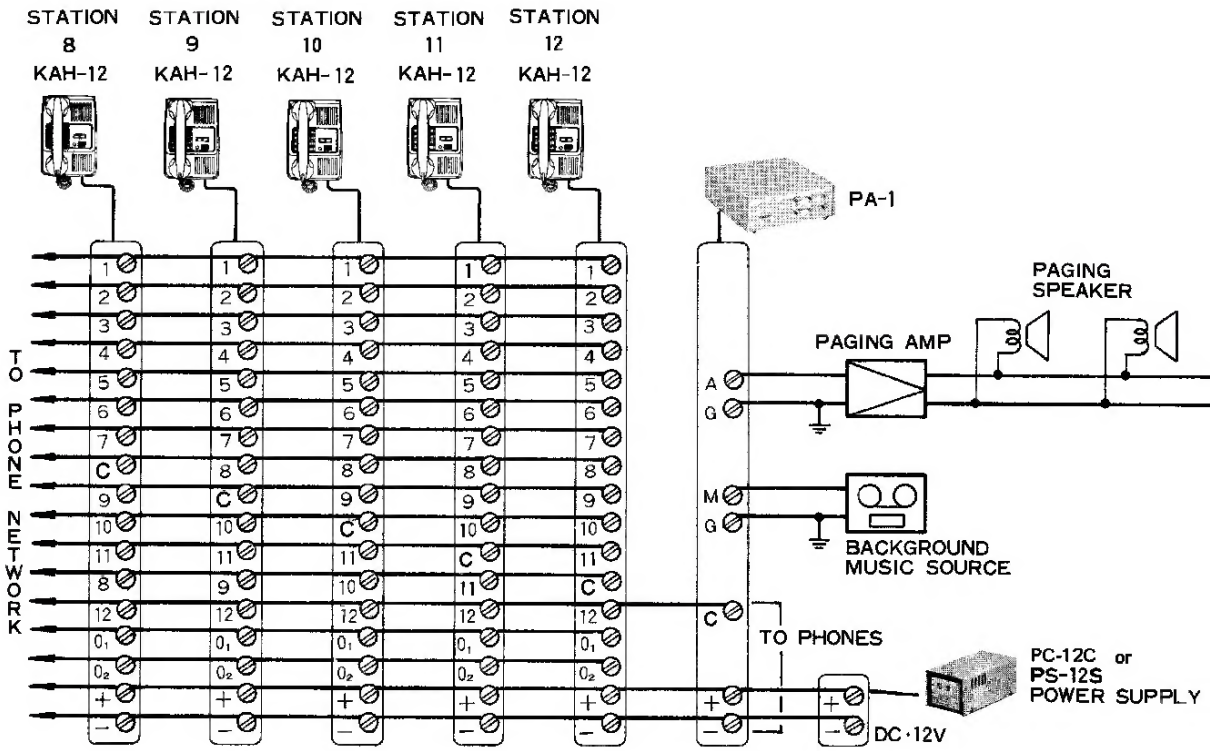
* Use audio output:	RANGE; 100mV – 1.2V, 600 ohm – 10K ohm.

NOTE:
Due to line induction, TALKBACK paging noise control and volume adjustments become more difficult as the line distance increases. Short wiring distances between the amplifier/PA-2 and the paging speakers provide the best talkback paging and the best control. To assure the best possible talkback paging system, we recommend a talkback speaker line consisting of shielded 2-conductor cable.

Downloaded from www.Manualslib.com manuals search engine

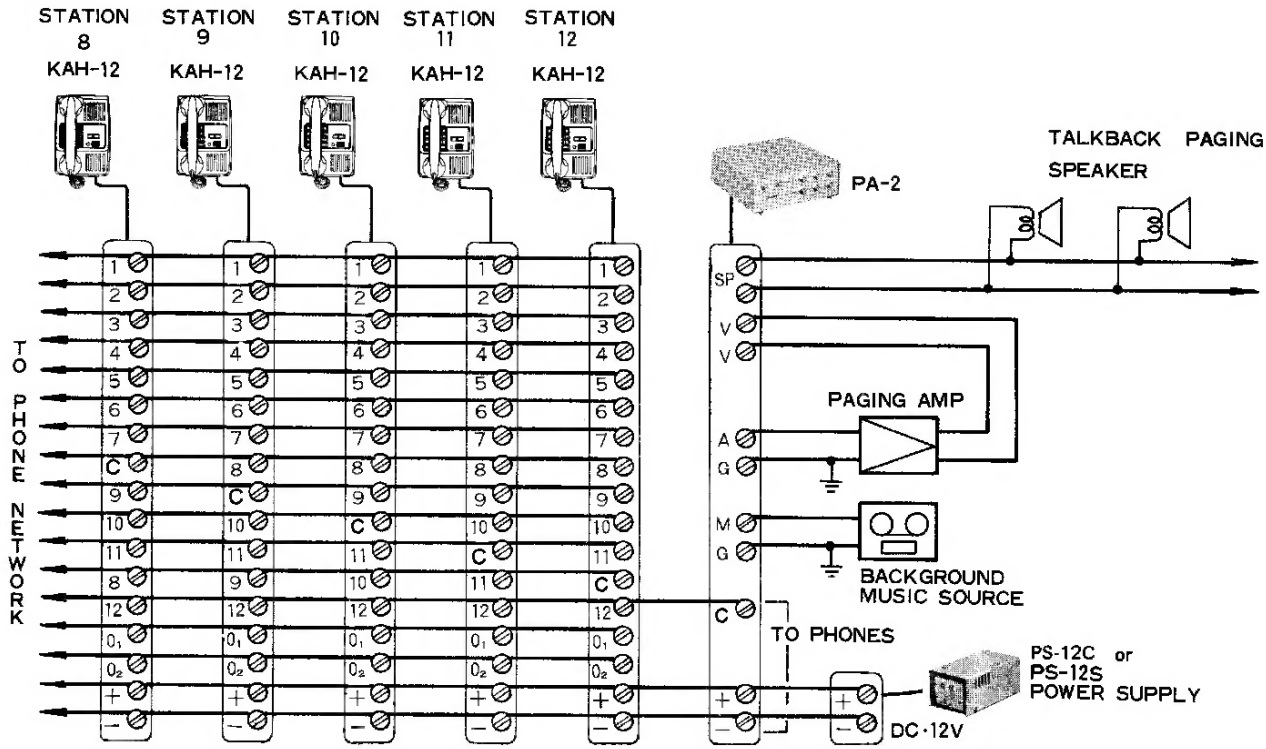
INSTALLATION OF BLOCK PAGING ADAPTOR PA-1

This example illustrates connection if block paging is desired but without talkback. One phone must be deducted from the system for each block. Each block requires one PA-1 and one paging amplifier. In this example selector button #12 on each phone operates paging.



INSTALLATION OF BLOCK PAGING ADAPTOR WITH TALKBACK PA-2

This example illustrates connection if block paging with talkback is desired. One phone must be deducted from the system for each block. Each block requires one PA-2 and one paging amplifier. In this example selector button #12 on each phone operates paging with talkback.



Downloaded from www.Manualslib.com manuals search engine

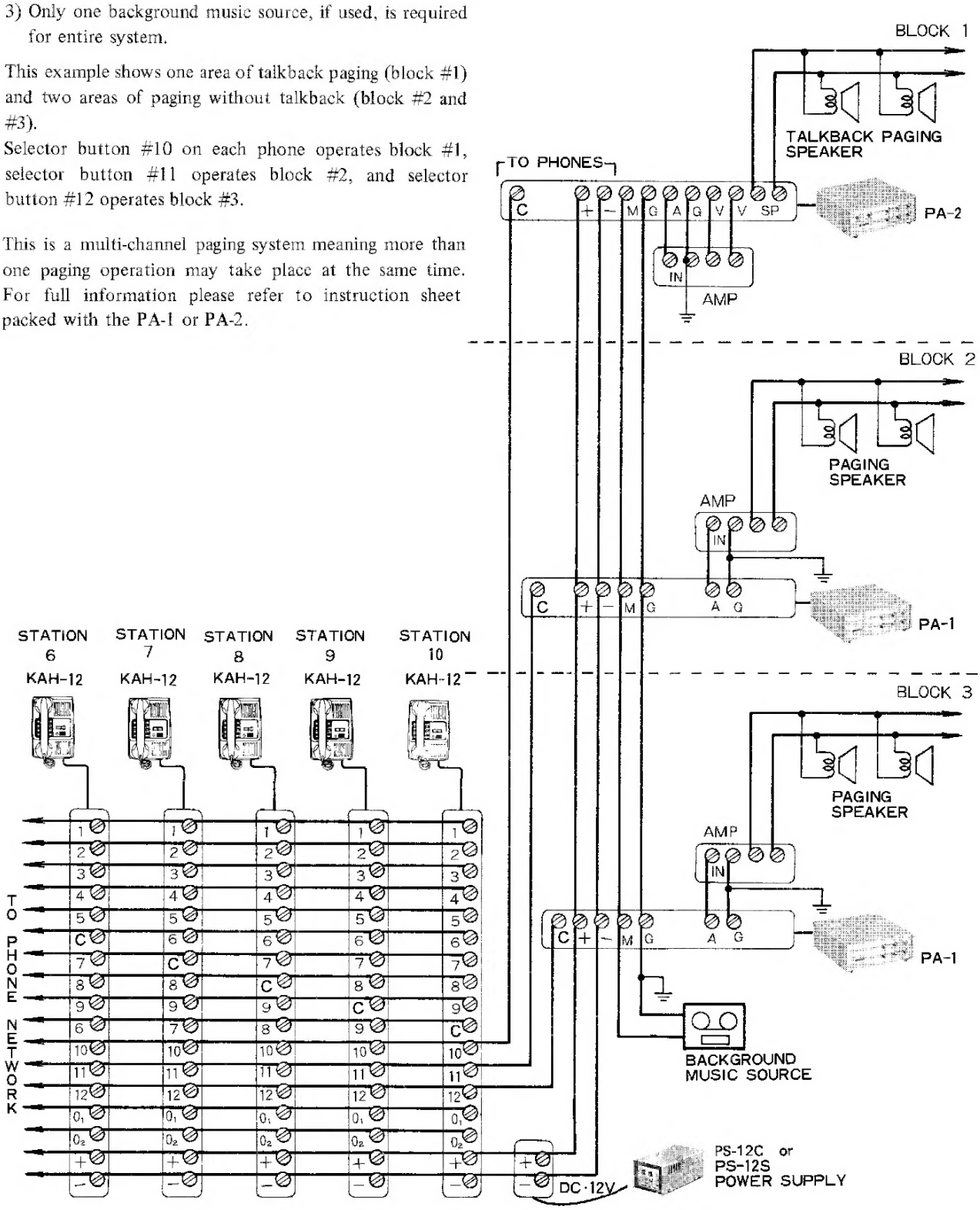
COMBINATION OF STRAIGHT PAGING AND TALKBACK PAGING

DUE TO THE ADVANCED DESIGN OF THE PA-1 AND PA-2 BLOCK PAGING ADAPTORS, SEPARATE CHANNELS MAY BE ESTABLISHED FOR PAGING OR PAGING WITH TALKBACK TO ANY NUMBER OF BLOCKS.

1) One potential phone must be deducted for each PA-1 or PA-2 installed.
2) One amplifier must be used with each PA-1 or PA-2.
3) Only one background music source, if used, is required for entire system.

This example shows one area of talkback paging (block #1) and two areas of paging without talkback (block #2 and #3).
Selector button #10 on each phone operates block #1, selector button #11 operates block #2, and selector button #12 operates block #3.

This is a multi-channel paging system meaning more than one paging operation may take place at the same time. For full information please refer to instruction sheet packed with the PA-1 or PA-2.



Downloaded from www.Manualslib.com manuals search engine

OPERATION

Calling;

Lift the handset and depress the selector button desired to communicate with, then momentarily depress the C button. This will sound a single stroke chime which indicates that the connection has been established.

1) If you hear a repeated tone, it means that the called station is switched for the privacy position. Wait for an answer or call later.
2) If you hear a continuous tone, it means that the called station is in the Line privacy position. Please call later.
3) If you hear no tone, it means that the called station is busy. Please call later.
4) If you hear a conversation, it means that the called station is in open voice communication.

* If the noise level at the called station is high, you may increase the output by using the P button, press to talk release to listen.

Receiving;

When your station is in non-privacy position, an incoming call is announced by single stroke chime and a call lamp. A reply can be made hands free using loudspeaking microphone or privately by using the handset.

When your station is switched for the privacy, an incoming call is announced by a repeated tone and a call lamp. A reply can be made by using the handset or by unlocking the privacy button and conversing handsfree.

When your station is switched for the Line privacy, an incoming call is announced only by the call lamp. The calling station understands that you are not in a position to reply and will cancel his call.

Adjusting privacy tone volume;

A volume control is provided on the rear of the unit to adjust the privacy tone volume. Adjust as desired.

TELEPHONE STATION KAH-2 OPERATION

The telephone station KAH-2 is equipped with 2 station selector buttons, a call button and a P button. It can place calls to two speaker phone master stations as selected upon installation. The KAH-2 can receive a call from any speaker phone station. Operation of the KAH-2 is the same as the speaker phone stations but reply can be made only by using the handset.

PAGING OPERATION

If appropriate equipment is installed, select the zone you wish to page and momentarily depress the C button to establish the channel. Use the P button for press to talk (and if PA-2 is used, release to listen). Background music will be automatically cut off.

CLEANING YOUR INTERCOM STATIONS

* Your Aiphone intercom stations may be cleaned with a soft cloth dampened with household cleanser, such as Mr. Clean or Fantastik.

* * *

We at AIPHONE are proud of our products. Our designers and engineers strive to bring you the finest in communication equipment. Each item has been carefully tested and inspected before leaving our factory. Properly installed and used, your Aiphone intercom system should give years of trouble-free service.

We are pleased to offer the following warranty:

WARRANTY

Aiphone warrants its products to be free from defects of material and workmanship under normal use and service for a period of one year after delivery to the ultimate user and will repair free of charge or replace at no charge, should it become defective upon which examination shall disclose to be defective and under warranty. Aiphone reserves unto itself the sole right to make the final decision whether there is a defect in materials and/or workmanship; and whether or not the product is within the warranty.

This warranty shall not apply to any Aiphone product which has been subject to misuse, neglect, accident, or to use in violation of instructions furnished, nor extended to units which have been repaired or altered outside of the factory.

This warranty does not cover batteries or damage caused by batteries used in connection with the product.

This warranty covers bench repairs only, and any repairs must be made at the shop or place designated in writing by Aiphone. Aiphone will not be responsible for any costs incurred involving on site service calls.

Aiphone Co., Ltd., Nagoya, Japan
Aiphone Corporation, Bellevue, Washington
ALL OVER THE WORLD **AIPHONE**
KAH-I-0182 ©
PRINTED IN JAPAN

Downloaded from www.Manualslib.com manuals search engine